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ABSTRACT

To identify current community college programs for occupations in high demand by business and industry, the American Association of Community Colleges (AACC) conducted a survey of 1,120 colleges across the nation. The survey asked community colleges to identify "hot" programs, the number of students enrolled in these programs, and the average starting salary received by graduates. A program is considered "hot" when completers are hired immediately following, or in some cases before, graduation. The survey also asked community colleges to identify hot information technology (IT) programs separately, because these programs have exhibited the most industry and labor force growth since AACC's 1994 survey. Their continued growth can be shown in both the number of programs offered and in the average number of students enrolled in IT programs. Tables contained in the article show top hot programs and average salary by region, top 25 national hot programs, ten highest starting salaries, employment information and job growth. Comparisons between regional salaries, the 1997 and 1994 surveys, and employment projections are displayed in tables. Noncredit training is also summarized. (AS)

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Hot Programs at Community Colleges

AACC Research Brief

AACC-RB-98-1

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American Association of Community Colleges

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AACC RESEARCH BRIEF

AACC-RB-98-1

HOT PROGRAMS

HOT PROGRAMS AT COMMUNITY COLLEGES

By Gregory Kienzl and Tracy Woods

EXECUTIVE SUMMARY

To identify current community college programs for occupations in high demand by business and industry, the American Association of Community Colleges (AACC) conducted a survey of 1,120 colleges across the nation. The survey asked community colleges to identify "hot" programs, the number of students enrolled in these programs, and the average starting salary received by graduates. A program is considered hot when completers are hired immediately following or in some cases before graduation.

The survey also asked community colleges to identify hot information technology (IT) programs separately, because these programs have exhibited the most industry and labor force growth since the 1994 survey. Their continued growth can be shown in both the number of programs offered and in the average number of students enrolled in IT programs (see Table 1).

Table 1 Top IT Programs

Program Name	# of IT Programs	Average # of IT Students per Program	Percent Change in IT Students since 1994
1 Computer Technology Computer Info Systems	84	637.8	41.8%
2 Computer Applications and Software	59	760.0	936.4%
3 Computer Programming	34	400.0	N/A
4 Microsoft Operating Systems	24	573.5	N/A
5 Microsoft Windows	17	325.6	N/A
6 Computer Assisted Design	14	247.6	103.9%

Highlights from the 1997 Survey:

- Nursing, computer-related technologies, and electronics technology are the top hot programs.
- Hot program graduates make close to $25,500—a 15 percent increase from three years ago.

The number of computer-related programs mentioned by community colleges as hot nearly doubled from six in 1994 to 11 in 1997.

- In the past three years, the average starting salary received by graduates of IT programs has increased by more than 24 percent—from $20,753 to $25,771.

Through a variety of credit and non-credit programs, community colleges are already meeting the training demands of the projected fastest-growing occupations.

A total of 244 surveys were returned, for a 20.7 percent response rate. A regional perspective is given here to reflect more accurately the different economic and occupational characteristics across the nation. Table 2 shows the differences in the top hot programs by region.

Table 2 Top Hot Programs and Average Salary* by Region

NORTHEASTERN

Program Name	Salary
1 Computer Tech/Computer Info Systems	$27,310
2 Registered Nursing	$29,075
3 Graphic Arts	$24,730
4 Dental Hygiene	$38,605
5 Electronics Technology/Elec. Engineering	$21,333
6 Accounting	$24,000
Average Salary	**$27,760**

SOUTHERN

Program Name	Salary
1 Registered Nursing	$28,354
2 Computer Tech/Computer Info Systems	$23,987
3 Electronics Technology/Elec. Engineering	$24,977
4 Dental Hygiene	$27,474
5 Physical Therapy (Assistant)	$26,698
6 Computer Programming	$26,229
Average Salary	**$26,589**

NORTH-CENTRAL

Program Name	Salary
1 Registered Nursing	$28,200
2 Electronics Technology/Elec. Engineering	$24,500
3 Computer Tech/Computer Info Systems	$21,833
4 Licensed Practical Nursing	$19,325
5 **Business**	**$18,867**
6 Physical Therapy (Assistant)	$23,610
Average Salary	**$23,315**

MIDWESTERN

Program Name	Salary
1 Registered Nursing	$30,994
2 Computer Tech/Computer Info Systems	$26,280
3 Electronics Technology/Elec. Engineering	$24,668
4 Physical Therapy (Assistant)	$27,763
5 **Computer Programming**	**$30,434**
6 Machinist/Machine Tool Technology	$24,975
Average Salary	**$27,952**

SOUTH-CENTRAL

Program Name	Salary
1 Registered Nursing	$28,497
2 Computer Tech/Computer Info Systems	$21,003
3 Manufacturing Process Technology	$32,875
4 Physical Therapy (Assistant)	$29,000
5 Law Enforcement/Criminal Justice/Human Services	$19,000
6 Automotive	$23,363
Average Salary	**$26,258**

PACIFIC

Program Name	Salary
1 Registered Nursing	$27,721
2 Automotive	$27,500
3 Law Enforcement/Criminal Justice/Human Services	$28,300
4 Computer Tech/Computer Info Systems	$30,533
5 Emergency Medical Services Technology	$28,667
6 Licensed Practical Nursing	$18,250
Average Salary	**$27,503**

* Weighted average of six top hot programs

The Hot Programs of 1997

The programs most frequently reported by colleges to be hot include nursing, computer technology, automobile technology, and law enforcement. Table 3 indicates the top 25 hot programs reported by the responding colleges, the number of programs, an approximate number of students in those programs, and the average reported starting salary received by students who complete such programs.

Table 3 Top 25 National Hot Programs

Program Name	# of Programs	# of Students	Average Students per Hot Program	Average Salary
1 Registered Nursing	84	11,701	139.3	$28,777
2 Computer Tech/Computer Info Systems	54	21,582	399.7	$24,990
3 Electronics Technology/Elec. Engineering	29	2,731	94.2	$24,255
4 Physical Therapy (Assistant)	24	1,615	67.3	$28,782
5 Automotive	21	1,927	91.8	$24,925
6 Law Enforcement/Criminal Justice/Human Services	21	3,911	186.2	$23,282
7 Computer Programming	20	7,946	397.3	$28,066
8 Dental Hygiene	16	484	30.3	$31,750
9 Machinist/Machine Tool Technology	12	887	73.9	$24,320
10 Occupational Therapist (Assistant)	12	1,156	96.3	$27,624
11 Business	11	3,666	333.3	$22,833
12 Drafting and Design	11	1,383	125.7	$24,800
13 Manufacturing Process Technology	11	2,574	234.0	$30,675
14 Computer Assisted Design	10	1,330	133.0	$26,891
15 Licensed Practical Nursing	10	451	45.1	$19,647
16 Refrigeration/AC/Heating	10	802	80.2	$22,416
17 Early Childhood Development	9	4,135	459.4	$17,387
18 Respiratory Therapy	9	221	24.6	$26,877
19 Telecommunications/Interactive Info Specialists	8	2,314	289.3	$29,267
20 Computer and Software Applications	7	1,711	244.4	$22,605
21 Computer Science	7	1,941	277.3	$28,400
22 Environmental Studies	7	798	114.0	$22,134
23 Graphic Arts	7	529	75.6	$23,320
24 Health Information Technology	7	375	53.6	$21,881
25 Culinary Arts	6	1,039	173.2	$22,200

In addition, there are a few programs that did not make the top 25 list but continue to be popular with students, businesses, and community service organizations. They include supervisor and leadership training, paralegal, emergency medical service, radiology, and accounting.

According to the survey, the average starting salary received by a hot program graduate is nearly $25,500. The hot programs with the highest starting salary potential are (in descending order) dental hygiene, manufacturing technology, registered nursing, computer programming, and occupational therapy assistant.

As shown in Table 4, there is a noticeable range between the minimum and maximum starting salaries received by hot program graduates. This may be due in part to regional differences, which will be addressed in more detail below.

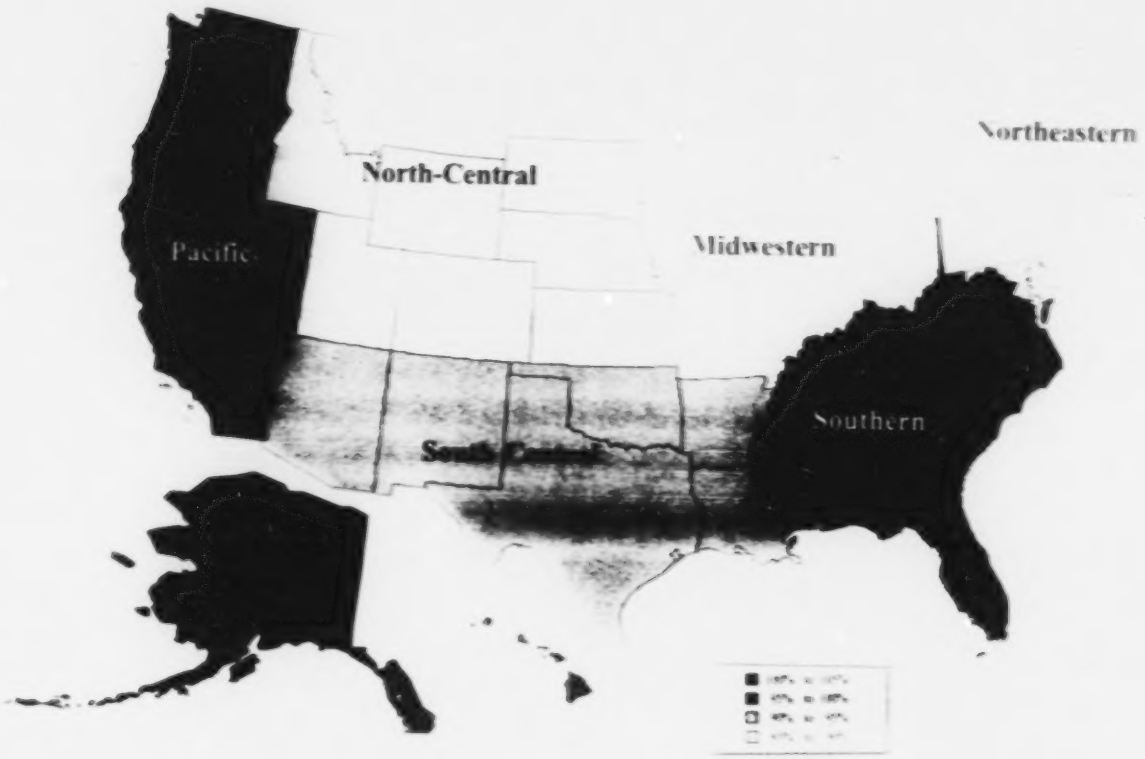
Table 4 – Ten Highest Hot Program Starting Salaries

Program Name	Average Salary	Minimum Salary	Maximum Salary
1 Dental Hygiene	$31,751	$18,720	$50,000
2 Manufacturing Process Technology	$30,675	$24,000	$45,000
3 Telecommunications Interactive, Info Specialists	$29,268	$24,000	$41,000
4 Physical Therapist (Assistant)	$28,782	$31,508	$40,000
5 Registered Nursing	$28,777	$20,000	$51,000
6 Computer Science	$28,400	$22,000	$32,000
7 Computer Programming	$28,067	$16,500	$34,100
8 Occupational Therapist (Assistant)	$27,625	$20,000	$32,500
9 Computer Assisted Design	$26,891	$21,000	$35,000
10 Respiratory Therapy	$26,878	$22,000	$30,000

Regional Salary Comparison

The average starting salary of hot program graduates is close to the average regional salary in four of the six regions. Survey responses from the Pacific and Northeastern regions reported the highest salaries for hot program graduates—$28,512 and $26,255, respectively. However, when the average hot program salary in a given region is compared with the average salary in that region, graduates from the Southern and the Pacific regions make slightly more than the average regional salary (see Figure 1).

Figure 1 - Percent Difference between Hot Programs Salary and Average Regional Salary



Source: Bureau of Labor Statistics, 1997

Comparison with 1994 Hot Programs Survey

For the most part, programs that were popular three years ago remain hot. Programs in health care (such as nursing and physical therapy assistance and aides), computer-related technology, and electronics technology are at the top of the hot programs list, just as they were three years ago.

The two major differences between the 1994 and 1997 surveys are the growth of computer-related programs and the starting salary received by graduates of hot programs. In the previous survey, six programs mentioned by community colleges as hot were computer based (computer technology is an integral part of the program). In the latest survey, however, 11 computer-based programs are noted as hot.

According to Bureau of Labor Statistics (BLS) projections, the growth of several occupations in the computer field is projected to double within the next 10 years. Likewise, there has been growth in computer-related programs and the number of students enrolled in them at community colleges, as evidenced by computer and software applications, software training, and computer networking heading the list of hot information technology programs.

Another significant difference between the 1994 and 1997 surveys is the average starting salary. Recent hot program graduates saw more than a 15 percent increase (from $22,119 to $25,414) in their starting salaries compared with 1994 hot program graduates. This dramatic rise in starting salary may be the result of a growing demand for skilled workers in an increasingly tight labor market, especially in the computer and information technology field. For example, the average starting salary received by graduates of IT programs has increased by 24.2 percent—from $20,753 to $25,771—since the 1994 survey. The median income of all employees with an associate degree rose by 2.2 percent during the same period (see Table 5).

Table 5 - Change in Median Income by Educational Attainment, 1993-1996

Educational Attainment	1993 Median Income	1996 Median Income	Percent Change
High School Graduate	$17,362	$18,348	5.7%
Some College, No Degree	$21,891	$22,531	2.9%
Associate Degree	$25,340	$25,910	2.2%
Bachelor's Degree	$32,847	$32,479	-1.1%

Source: March Current Population Survey, Bureau of the Census, 1997

Comparison with Employment Projections

According to the BLS, total employment is projected to increase by 14 percent in the next decade, from 132 million in 1996 to 151 million in 2006. Occupations requiring an associate degree are projected to increase by more than 22 percent over this time span—more than for any other education levels, except those occupations requiring a bachelor's degree (see Table 6).

Table 6 - Employment and Total Job Openings by Education and Training Category, 1996-2006

(Numbers in thousands)

Education and Training Category	Employment Number		Employment Percent		Change Number	Change Percent
	1996	2006	1996	2006		
Postsecondary Vocational Training	8,091	8,589	6.1%	5.8%	498	7.4%
Associate Degree	4,122	5,036	3.1%	3.3%	915	22.2%
Bachelor's Degree	15,821	19,838	12.0%	13.1%	4,017	25.4%
Work Experience + Bachelor's or Higher Degree	8,971	10,568	6.8%	7.0%	1,597	17.8%
Master's Degree	1,371	1,577	1.0%	1.0%	206	15.0%
Doctoral Degree	1,016	1,209	0.8%	0.8%	193	19.0%
First Professional Degree	1,707	2,015	1.3%	1.3%	308	18.0%
Work Experience in a Related Occupation	9,966	11,177	7.5%	7.4%	1,211	12.2%
Long-Term on-the-Job Training	11,011	11,890	8.3%	7.9%	879	8.0%
Moderate-Term on-the-Job Training	16,792	18,260	12.7%	12.1%	1,468	8.7%
Short-Term on-the-Job Training	53,487	60,670	40.4%	40.2%	7,183	13.4%
Total, All Occupations	132,351	150,927	100.0%	100.0%	18,574	14.0%

Source: Bureau of Labor Statistics, 1997

The hot programs reported by community colleges closely match BLS projections for the largest and fastest job growth in the next decade. Computer technologies, health care services, and management and public relations are three industries projected by the BLS to experience the fastest employment growth. Computer technologies and health care services are also among the top hot programs, while management and public relations is one of the most popular noncredit programs (see Table 7).

Table 7 - Industries with the Fastest Projected Employment Growth, 1996-2006

(Numbers in thousands of jobs)

Industry Description	Employment		Change, 1996-2006	
	1996	2006	Number	Percent
1 Computer and Data Processing Services	1,208	2,509	1,301	107.7%
2 Health Services	1,172	1,968	796	67.9%
3 Management and Public Relations	873	1,400	527	60.4%
4 Miscellaneous Transportation Services	204	327	123	60.3%
5 Residential Care	672	1,070	398	59.2%
6 Personnel Supply Services	2,646	4,039	1,393	52.6%

Source: Bureau of Labor Statistics, 1997

According to the BLS, service occupations are projected to account for nearly all of the job growth from 1996 to 2006. These include service occupations for business, health care, and educational fields (see Table 8). Training for these occupations can be satisfied through a variety of credit and noncredit courses offered by community colleges.

Table 8 - Occupations with the Largest Projected Job Growth, 1996-2006

(Numbers in thousands of jobs)

Occupation	Employment		Change, 1996-2006	
	1996	2006	Number	Percent
1 Systems Analysts	506	1,025	520	102.8%
2 Home Health Aides	495	873	378	76.4%
3 Teacher Aides and Educational Assistants	981	1,352	370	37.7%
4 Receptionists and Information Clerks	1,074	1,392	318	29.6%
5 Nursing Aides, Orderlies, and Attendants	1,312	1,645	333	25.4%
6 Registered Nurses	1,971	2,382	411	20.9%

Source: Bureau of Labor Statistics, 1997

Noncredit Training

As shown in Table 9, computer application technology and information systems, along with supervisor and management training and emergency medical services, were the type of noncredit training program most often reported on the hot programs survey. As the average number of students per program indicates, local business and industry are relying more heavily on noncredit programs at community colleges to provide necessary skill training and professional development.

Table 9 - Top Ten Noncredit Programs

	Program Name	Average # of students per Program
1	Computer and Software Applications	1,092.8
2	Computer Technology/Computer Info Systems	1,120.6
3	Supervisor, Leadership Training, Office Administrative	421.0
4	Emergency Medical Services/Technology	1,486.6
5	Manufacturing Process Technology	798.1
6	Special Services (Drug Alcohol, Job Counseling)	829.0
7	Business	2,945.8
8	Tractor Trailer Truck Driving	1,719.7
9	Electronics Technology/Elec. Engineering	243.7
10	Quality Technology	1,032.6

For further information on the Community College Hot Programs Survey results or related information, contact

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